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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/773,647 7590	01/31/2001 09/10/2002	Thomas Cremer	GK-GEY-1083C / 500530.200	7350

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FREDMAN, JEFFREY NORMAN

ART UNIT	PAPER NUMBER
1637	

DATE MAILED: 09/10/2002

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No. 09/773,647	Applicant(s) Cremer et al
Examiner Jeffrey Fredman	Art Unit 1637

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE three MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on Jul 23, 2002
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above, claim(s) 15-20 is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1-14 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on _____ is/are a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) The proposed drawing correction filed on _____ is: a) approved b) disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) All b) Some* c) None of:
1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. _____.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

*See the attached detailed Office action for a list of the certified copies not received.

- 14) Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).
a) The translation of the foreign language provisional application has been received.
- 15) Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) Notice of References Cited (PTO-892) 4) Interview Summary (PTO-413) Paper No(s). _____
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) Notice of Informal Patent Application (PTO-162)
- 3) Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____ 6) Other: _____

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DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

2. Claims 1-5 and 7 are rejected under 35 U.S.C. 102(e) as being anticipated by Khrapko et al (U.S. Patent 5,552,270).

Khrapko teaches an element which comprises a supporting matrix such as a glass slide (column 3, lines 64-68) which have target nucleic acids sequences attached using a thin polyacrylamide film (see figure 3 and column 3, lines 1-3 and column 4) that are placed in a geometric arrangement in parallel rows (see figure 1). The nucleic acids of Khrapko are structural identical to short cDNA probes and inherently comprise such probes.

3. Claims 1-3, 6, and 8-14 are rejected under 35 U.S.C. 102(b) as being anticipated by Bernheim et al (Proc. Natl. Acad. Sci. (1983) 80:7571-7575).

Bernheim teaches an element which comprises a supporting matrix of nitrocellulose (figure 5) which have each of the 24 human chromosomes sorted into two peaks, one Y peak, one non-Y

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peak, attached to the nitrocellulose support (see figure 5) that are placed in a geometric arrangement (see figure 5).

It is noted that the chromosomes attached to the nitrocellulose, being whole chromosomes, are inherently arranged in P to Q order.

It is noted that the two peaks attached to nitrocellulose comprise every single human chromosome including 13, 18, 21, X and Y inherently.

It is noted that the two peaks attached to nitrocellulose comprise chromosome bands inherently.

It is noted that the two peaks attached to nitrocellulose inherently comprise every subchromosomal region, including any smaller size range of a few kbp to several Mbp.

Response to Arguments

4. Applicant's arguments filed July 23, 2002 have been fully considered but they are not persuasive.

Applicant argues that Kraphko does not teach a geometric arrangement of different nucleic acids and that Kraphko teach that each array is essentially the same. Applicant further argues that no particular geometric arrangement of sequences relative to one another is taught by Kraphko.

In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., nucleic acids in the array being different and particular geometric arrangements) are not recited in the rejected

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claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Further, Kraphko necessarily has some arrangement which is geometric inherently simply by placing the nucleic acids on the support.

Applicant should note, however, the Kraphko **DOES TEACH** an array with different oligonucleotides present on the array. In order to perform the Sequencing by Hybridization method of Kraphko, Kraphko must use arrays where each dot comprises a different nucleic acid, as Kraphko discusses in columns 2 and 3.

Applicant then argues the Bernheim reference and notes that the DNA are intermingled with the single dot. Here again, Applicant appears to be reading some limitation into the claim which is not there. There is no requirement that the single DNA type not be intermingled within the dot. Further, it is unclear whether Applicant is arguing that only a single molecule of the nucleic acid can be present at each location or if multiple molecules are permitted. In any case, such a limitation to the number of molecules is not present in the current claim. Figure 5 represents a single panel which has each of the chromosomes present, inherently in some order. Currently, there are no claim limitations which distinguish the inherent geometric arrangement of Bernheim from the claimed invention.

For these reasons, the rejections are maintained.

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Conclusion

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeffrey Fredman, Ph.D. whose telephone number is (703) 308-6568.

The examiner is normally in the office between the hours of 6:30 a.m. and 4:00 p.m., and telephone calls either in the morning are most likely to find the examiner in the office.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gary Benzion, can be reached on (703) 308-1119.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 308-0196.

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Papers related to this application may be submitted to Technology Center 1600 by facsimile transmission via the P.T.O. Fax Center located in Crystal Mall 1. The CM1 Fax Center numbers for Technology Center 1600 are either (703) 305-3014 or (703) 308-4242. Please note that the faxing of such papers must conform with the Notice to Comply published in the Official Gazette, 1096 OG 30 (November 15, 1989).



**Jeffrey Fredman
Primary Patent Examiner
Art Unit 1637**

September 5, 2002